

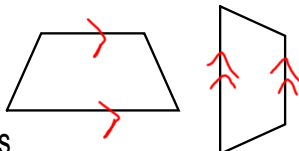
6.5 Trapezoids

Trapezoid --quadrilateral with exactly one pair of parallel sides

bases --parallel sides

legs --non-parallel sides

The angles are referred to as base angles.



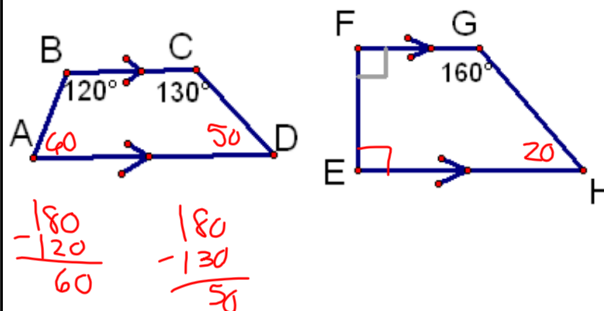
Isosceles Trapezoid --trapezoid with congruent legs



Theorem 6.12--In an isosceles trapezoid, the base angles are congruent

Theorem 6.13--In a trapezoid, if the base angles are congruent, then the trapezoid is isosceles.

Find the missing angles.



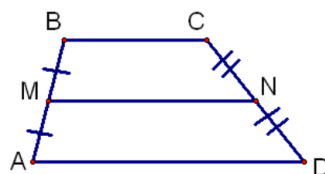
Find the missing angles.

Diagram 1: Triangle MNP with $\angle M = 90^\circ$ and $\angle N = 150^\circ$. A line segment OP is drawn from vertex O to the hypotenuse MP, with a right angle symbol at P.

Diagram 2: Parallelogram ILJK with $\angle L = 40^\circ$. Side IL is labeled 3, and side JK is labeled 3.

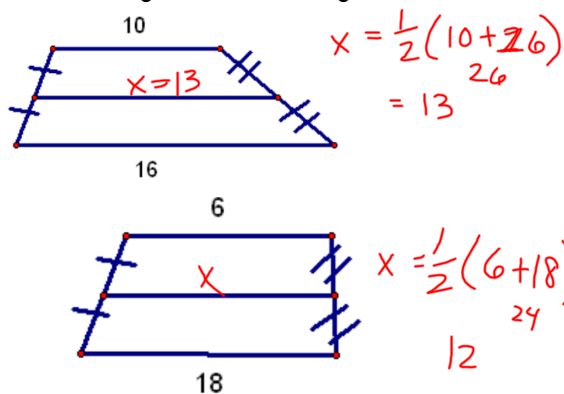
Diagram 3: Parallelogram ACDB with $\angle C = 110^\circ$. Side AC is labeled 70, and side BD is labeled 70.

Midsegment--connects the midpoints of the legs



$$MN = \frac{1}{2}(BC + AD)$$

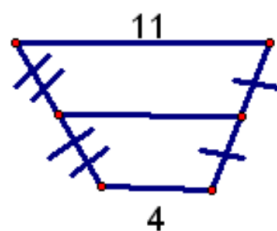
Find the length of the midsegment.



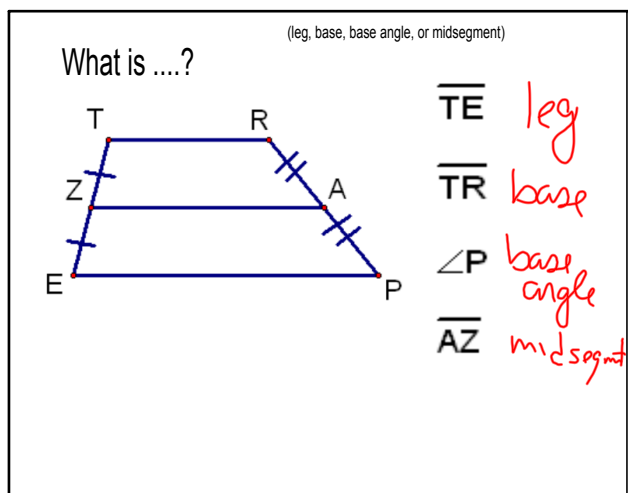
$$x = \frac{1}{2}(10 + 16) = 13$$

$$x = \frac{1}{2}(6 + 18) = 12$$

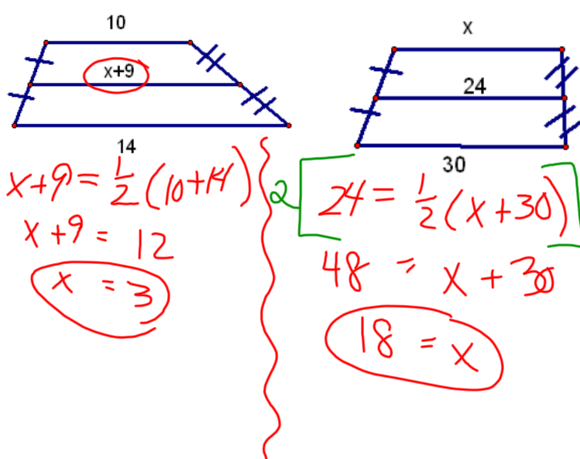
Find the length of the midsegment.



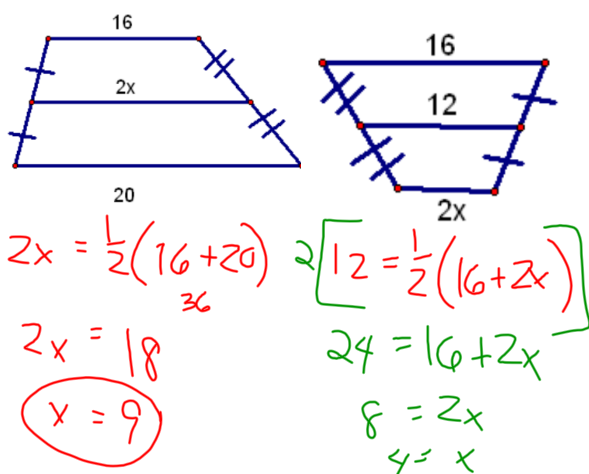
$$x = \frac{1}{2}(11 + 4) = 7.5$$



Solve for x given the following midsegments.



Solve for x given the following midsegments.



HW

p334-335

3-15, 18-25